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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,080	09/29/2003	Stuart D. Downes	EMC03-11(03063)	2177
47653	7590	04/04/2006	EXAMINER	
DAVID E. HUANG, ESQ. BAINWOOD HUANG AND ASSOCIATES LLC 2 CONNECTOR ROAD - SUITE 2A WESTBOROUGH, MA 01581			EDMONDSON, LYNNE RENEE	
			ART UNIT	PAPER NUMBER
			1725	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/674,080	Applicant(s) DOWNES ET AL.	
	Examiner Lynne Edmondson	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9, 26-28, 33 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 26-28, 33 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. It is noted that no statement was made as to allowable subject matter in claim 8. However as this claim was omitted in the prior action, this action will not be made final.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 26 are rejected under 35 U.S.C. 102(a) as being anticipated by Shier et al. (USPN 6622905 B2).

Shier teaches a method for processing a circuit board comprising providing a circuit board, placing a mask on the board, forming a set of pad profiles with rounded corners and removing the mask (figures 2A-3B and col 2 line 56 – col 3 line 65).

4. Claims 1-3, 6, 7, 9 and 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Rinne et al. (USPN 6389691 B1).

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Rinne teaches a method for processing a circuit board comprising providing a circuit board, placing a mask on the board, forming a set of pad profiles with multiple rounded corners having radii of about 11 mils (col 10 lines 23-30) and removing the mask (figures 8-10 and col 6 line 52 – col 7 line 25). Pads are shaped by etching (col 9 lines 12-25). Solder is Pb free (col 7 lines 8-25).

5. Claims 1-3, 6, 9, 26, 27, 33 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by DiStefano et al. (USPN 6324754 B1).

DiStefano teaches a method for processing a circuit board comprising providing a circuit board, placing a mask on the board, forming a set of pad profiles with four convex lobes protruding from the corners of a rectangular center with an essentially oval shape (figure 9 and col 9 lines 37-66) having a radius of about 9.5 mils (diameter 19 mils, col 6 lines 43-51) and removing the mask. Pads are shaped by etching (col 6 line 19 0- col 7 line 21).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 4, 5 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rinne et al. (USPN 6389691 B1) in view of Regner et al. (US 2001/0011676 A1).

Rinne teaches a method for processing a circuit board comprising providing a circuit board, placing a mask on the board, forming a set of pad profiles with multiple rounded corners having radii of about 11 mils (col 10 lines 23-30) and removing the mask (figures 8-10 and col 6 line 52 – col 7 line 25). Pads are shaped by etching (col 9 lines 12-25). Solder is Pb free (col 7 lines 8-25). However, there is no printing step.

Regner teaches a method for processing a circuit board comprising providing a circuit board, placing a mask on the board, forming a set of pad profiles with rounded corners and removing the mask (figure 1 and paragraphs 21-24). A board component is attached (paragraph 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ conventional techniques such as screen printing solder to form the integrated circuit in a reliable, time and cost-effective manner.

Response to Arguments

8. Applicant's arguments with respect to claims 4, 5 and 28 have been considered but are moot in view of the new ground(s) of rejection.

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9. It is noted that a terminal disclaimer has been filed. Therefore the double patenting rejection of claims 1, 4-6, 27 and 28 as obvious over application 09/636360 is withdrawn.

10. As there are no arguments against Shier and the reference shows multiple convex lobes (figures 2A-3B), the 102 rejection of claims 1 and 26 as anticipated by Shier stands.

11. As there are no arguments against Rinne and the reference shows multiple convex lobes, one of which has a substantially oval shape (figures 8-10), the 102 rejection of claims 1-3, 6, 7, 9 and 26-28 as anticipated by Rinne stands.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (571) 272-1172. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lynne Edmondson
Primary Examiner
Art Unit 1725

ULE 3/31/12

LRE